drillmaster®

18V CORDLESS DRILL/FLASHLIGHT

Model 91396

SET UP AND OPERATING INSTRUCTIONS

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Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

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For technical questions or replacement parts, please call 1-800-444-3353.

Revised Manual 10f

SPECIFICATIONS

Electrical Requirements	Battery Charger Input: 120VAC / 60Hz Battery Output: 18 VDC Battery Amp Rating: 1.2 Amp - hr Battery Charging Time: 7 Hours Initial / 5 to 7 Hrs. Subsequent Charges
Drill Specifications	18 V / 550 RPM / 3/8” Keyless Chuck Variable Speed / Reversible / 6 Torque Settings Pistol Grip / Squeeze Trigger
Flashlight Specifications	18 V / 5 Watt Bulb

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES

WARNING! Read all instructions
Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury. The term “power tool” in all of the warnings listed below refers to your line-operated (corded) power tool or battery-operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

ELECTRICAL SAFETY

1. **Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.

2. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation ⧈ eliminates the need for the three wire grounded power cord and grounded power supply system.

3. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.

4. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

5. **Do not abuse the Power Cord. Never use the Power Cord to carry the tools or pull the Plug from an outlet. Keep the Power Cord away from heat, oil, sharp edges, or moving parts. Replace damaged Power Cords immediately.** Damaged Power Cords increase the risk of electric shock.

6. **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W".** These extension cords are rated for outdoor use, and reduce the risk of electric shock.

PERSONAL SAFETY

1. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.

2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.

3. **Avoid accidental starting. Be sure the Power Switch is off before plugging in.** Carrying power tools with your finger on the Power Switch, or plugging in power tools with the Power Switch on, invites accidents.

4. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.

5. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.

6. **Use safety equipment. Always wear eye protection.** Wear ANSI approved safety impact eye goggles. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

TOOL USE AND CARE

1. **Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.

2. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.

3. **Do not use the power tool if the Power Switch does not turn it on or off.** Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.

4. **Disconnect the Power Cord Plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.

5. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.

6. **Maintain tools with care.** Do not use a damaged tool. Tag damaged tools “Do not use” until repaired.

7. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool’s operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

8. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.

2. **When servicing a tool, use only identical replacement parts. Follow instructions in the *"Inspection, Maintenance, And Cleaning"* section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES

1. **Maintain labels and nameplates on the Drill/Flashlight Kit.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

2. **Proper Battery Care:** Battery (11A) leakage may occur under extreme usage or temperature conditions. If Battery fluid comes in contact with skin, wash with soap and water and rinse with lemon juice and vinegar. If the fluid comes in contact with eyes, flush with water for several minutes and contact a doctor immediately. Never burn the Battery, as it can explode in a fire. Do not attempt to charge a leaking Battery. Contact local solid waste authorities for instructions on correct disposal or recycling of the Battery.

3. **Do not allow children to handle or play with these products.**

4. **Industrial applications must follow OSHA requirements.**

5. **Check for damaged parts.** Before using these products, carefully check that they will operate properly and perform their intended function. Check for damaged parts and any other conditions that may affect the safe operation of these products. Replace or repair damaged or worn parts immediately.

6. **Replacement parts and accessories:** When servicing, use only identical replacement parts. Only use accessories intended for use with this product.

7. **Use the right tool or attachment for the right job.** There are certain applications for which these products were designed. They will do the job better and more safely at the rate for which they were intended. Do not modify these products, and do not use these products for a purpose for which they were not intended.

8. **The initial charging time for the Battery (11A) is seven hours. Thereafter, charge the Battery only from five to seven hours.**

9. **NEVER charge the Battery (11A) more than seven hours continuously.**

10. **The Battery Charger (24A) should not be left plugged in or charging for more than <u>seven</u> hours.** Do not leave the battery unattended while battery is being charged.

11. **Always switch to a fresh Battery when tool performance begins to diminish.** Severe heat is most destructive to a Battery. The more heat generated, the faster the Batter loses power. A Battery that gets too hot can be permanently damaged. Never over-discharge a Battery by using the tool even after tool performance is decreasing. Never attempt to discharge a tool's Battery by continuing to pull the tool trigger. When tool performance begins to diminish stop the tool, recharge the Battery and use the fresh Battery for optimal performance.

12. **WARNING!** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contain chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are: lead from lead-based paints, crystalline silica from bricks and cement or other masonry products, arsenic and chromium from chemically treated lumber. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. *(California Health & Safety Code 25249.5, et seq.)*

13. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.

14. The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

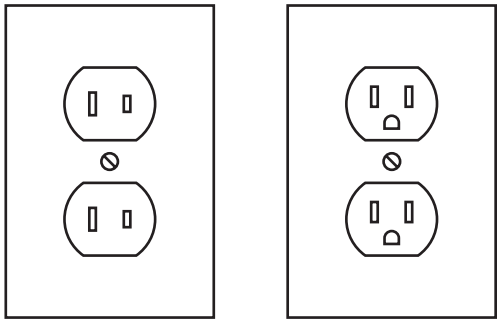
GROUNDING

⚠WARNING **Improperly connecting the grounding wire can result in electric shock.**

Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

Double Insulated Tools: Tools with Two Prong Plugs

1. Tools marked “Double Insulated” do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code.
(See Outlets for 2-Prong Plug.)



Outlets for 2-Prong Plug

2. Double insulated tools may be used in either of the 120 volt outlets shown in the preceding illustration.
(See Outlets for 2-Prong Plug.)

Extension Cords

1. ***Grounded*** tools require a three wire extension cord. ***Double Insulated*** tools can use either a two or three wire extension cord.

2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.
(See Table A.)

3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord.
(See Table A.)

4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. **(See Table A.)**

5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size.
(See Table A.)

6. If you are using an extension cord outdoors, make sure it is marked with the suffix “W-A” (“W” in Canada) to indicate it is acceptable for outdoor use.

7. Make sure the extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.

8. Protect the extension cords from sharp objects, excessive heat, and damp or wet areas.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* (120/240 VOLT)					
NAMEPLATE AMPERES (at full load)	EXTENSION CORD LENGTH				
	25 Feet	50 Feet	75 Feet	100 Feet	150 Feet
0 – 2.0	18	18	18	18	16
2.1 – 3.4	18	18	18	16	14
3.5 – 5.0	18	18	16	14	12
5.1 – 7.0	18	16	14	12	12
7.1 – 12.0	18	14	12	10	-
12.1 – 16.0	14	12	10	-	-
16.1 – 20.0	12	10	-	-	-
TABLE A	* Based on limiting the line voltage drop to five volts at 150% of the rated amperes.				

Symbology

	Double Insulated	V~	Volts Alternating Current
	Canadian Standards Association	A	Amperes
	Underwriters Laboratories, Inc.	n_0 xxxx/min.	No Load Revolutions per Minute (RPM)

UNPACKING

When unpacking, check to make sure all the parts shown on the **Parts Lists on pages 15 and 16** are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

ASSEMBLY AND OPERATING INSTRUCTIONS

Note: For additional information regarding the parts mentioned in the following pages, refer to the **Assembly Diagrams on pages 15 and 16.**

Charging:

Note: The Battery (11A) requires charging. The first charge requires **7 hours** charge time prior to using the Drill or Flashlight.

1. The Battery (11A) should only be recharged when the Drill begins to run slowly or the Flashlight Bulb begins to dim.

2. When the Battery (11A) requires recharging, a **5 to 7 hour** charge allows the tool to operate at full power. **NOTE:** Typically, a rechargeable Battery must be used and recharged several times over before it begins to eventually operate at full power when it is recharged thereafter.

3. **CAUTION!** Do not recharge the Battery longer than 7 hours, as damage to the Battery and/or Drill or Flashlight will occur.

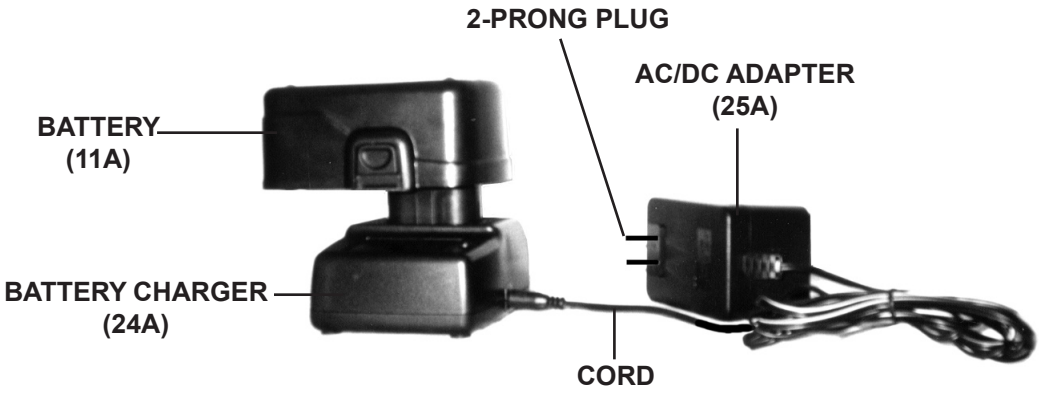


FIGURE D

4. To charge the Battery (11A), insert the Battery's *Plug* into the *Charging Socket* of the Battery Charger (24A). Next, plug the AC/DC Adapter (25A) *Cord* into the Battery Charger. Then, plug the AC/DC Adapter *2-Prong Plug* into the nearest 120 volt, grounded, electrical outlet. **(See Figure D.)**

5. A *Charging Indicator Light* on the Battery Charger (24A) will illuminate to show that charging is taking place. **NOTE:** The Battery Charger (24A) will **not** automatically turn off when the Battery (11A) is fully charged, and the Charging Indicator Light will remain on until the Battery Charger is disconnected from the electrical outlet. Recharging the Battery more than 7 hours can cause damage to the Battery cells. **(See Figure D.)**

6. While charging, the Battery (11A), Battery Charger (24A), and AC/DC Adapter (25A) may become warm to the touch. This is normal, and does not indicate a problem. **(See Figure D.)**

7. Once the Battery (11A) is fully charged, disconnect the Battery Charger (24A) *2-Prong Plug* from the electrical outlet. Next, disconnect the AC/DC Adapter (25A) *Cord* from the Battery Charger. Then, remove the Battery (11A) from the Battery Charger. **(See Figure D.)**

To Operate The Drill:

⚠**WARNING!** Always make sure the Trigger (18A) of the Cordless Drill is in its **"OFF"** position, the Battery (11A) is removed from the Drill, and the Battery Charger (24A) is unplugged from its electrical outlet prior to making any adjustments to the tool. **(See Figure E.)**

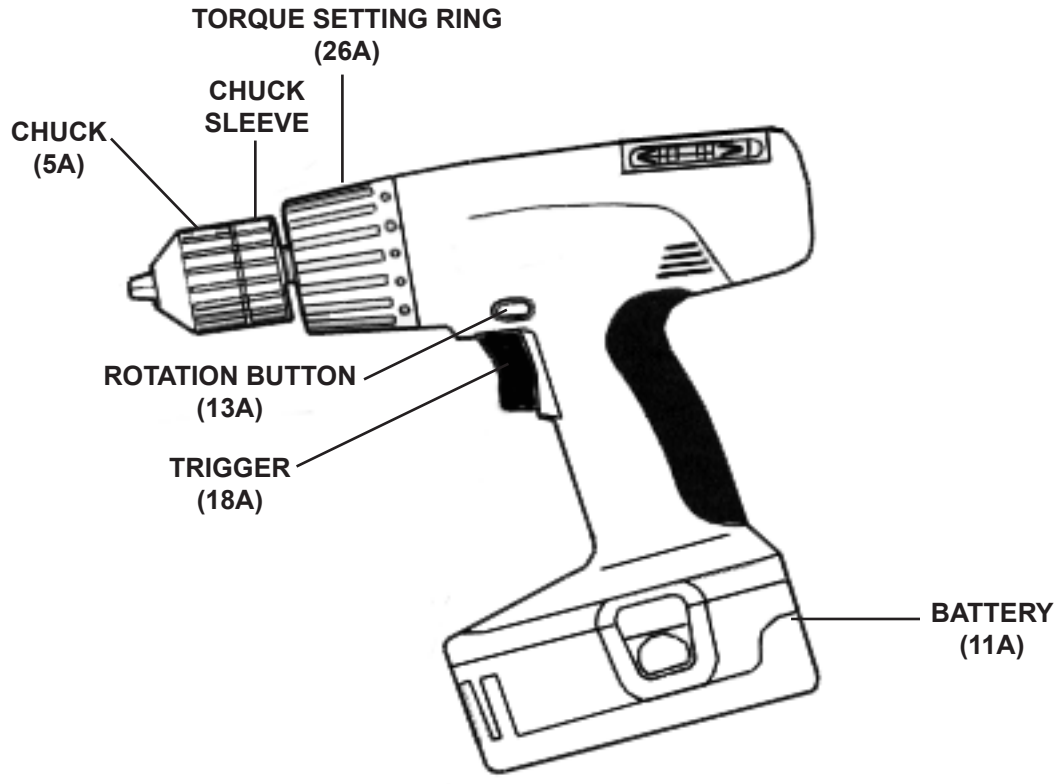


FIGURE E

1. **The Chuck (5A):** Accepts up to 3/8" diameter Drill Bits, Driver Bits, and a Hex Driver Extension. To install a Drill/Driver Bit or Driver Extension, hold the Chuck *Sleeve* firmly in place and turn the Chuck *counterclockwise*. Insert the shank of a Drill/Driver Bit or Driver Extension all the way into the Chuck. While holding the Chuck Sleeve in place, turn the Chuck *clockwise* to lock the Drill/Driver Bit or Extension in place. **(See Figure E.)**

2. **The Trigger (18A):** The Trigger is operated *manually* simply by squeezing the Trigger to turn on the Drill and releasing pressure on the Trigger to turn off the Drill. **(See Figure E.)**

3. **The Rotation Button (13A):** The Rotation Button allows you to change the rotational direction of the Drill. For a clockwise rotation, move the Rotation Button to the *right*. For a counterclockwise rotation, move the Rotation Button to the *left*. **(See Figure E.)**

4. **The Torque Setting Ring (26A):** The Torque Setting Ring allows you to select different driving torque settings numbered 1 through 6, with 1 being the lowest torque and 6 being the highest. To change the driving torque, simply turn the Torque Setting Ring to the desired setting. **(See Figure E.)**

5. Whenever possible, secure the workpiece that is to be drilled in a vise or with clamps.

6. When installing Drill Bits, Driver Bits, or a Hex Driver Extension, make sure the Battery (11A) is removed from the Drill to avoid accidental starting. Then, insert and lock in place a Drill Bit, Driver Bit, or Hex Driver Extension in the Chuck (5A) of the Drill. **(See Figure E.)**

7. Insert the fully charged Battery (11A) in the Drill's Handle, and make sure the *Spring* on the Battery snaps into place on the Handle. **(See Figure E.)**

8. Lubricate the cutting tip of the drill bit with cutting oil when drilling iron or steel. Use a coolant when drilling non-ferrous metals such as copper, brass, or aluminum.

9. When drilling in light gauge metal or wood, use a wooden block to back up the material to prevent damage to the workpiece.

10. Mark the center of the hole to be drilled with a center punch (not included) to give a drill bit a start and to prevent it from "walking".

11. To turn on the Drill, squeeze the Trigger (18A). **NOTE:** Always grip the Drill firmly with **both hands** when the tool is running. **(See Figure E.)**

12. Drill only as deep as necessary. Always check the drill path beforehand to make sure there are no electrical wires or cords in the way.
Do not drill deeper than necessary into walls or other areas where you cannot identify any possible hazards behind the drilling surface.

13. To reduce jamming as the drill bit breaks through the workpiece, decrease the drilling pressure when the point of the drill bit breaks through the workpiece.

14. When you have drilled the hole, remove the drill bit from the hole while the Drill is still running.
This prevents the drill bit from getting caught in the hole and causing damage.

15. Release the Trigger (18A) to stop the Drill. Then, remove the Battery (11A) and Drill Bit, Driver Bit, or Hex Driver Extension from the Drill.

To Operate The Flashlight:

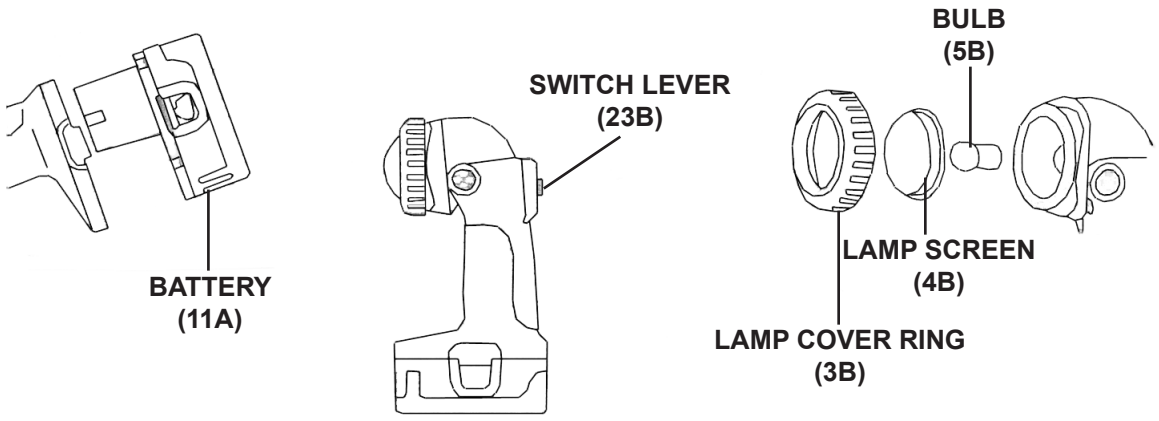


FIGURE F

1. Insert the fully charged Battery (11A) in the Flashlight's Handle, and make sure the *Spring* on the Battery snaps into place on the Handle. **(See Figure F.)**

2. Slide the Switch Lever (23B) on the Handle to the ON position. **(See Figure F.)**

3. To turn off the Flashlight, slide the Switch Lever (23B) to its OFF position. **(See Figure F.)**

4. To change the Bulb (5B), unscrew the Lamp Cover Ring (3B) and remove the Lamp Screen (4B). Remove the old Bulb by pushing in on the Bulb while turning it clockwise. Insert a new Bulb by aligning the tabs on the Bulb with the slots in the Lamp Reflector (6B). Push in on the new Bulb while turning it counterclockwise. Then, re-attach the Lamp Screen and Lamp Cover Ring. **(See Figure F.)**

INSPECTION, MAINTENANCE, AND CLEANING

⚠**WARNING!** **Remove the Battery (11A) from the tool and unplug the Battery Charger (24A) from its electrical outlet before performing any inspection, maintenance, or cleaning on the tool.**

1. **Before each use,** inspect the general condition of the tools. Check for misalignment or binding of moving parts, cracked or broken parts, damaged wiring, and any other condition that may affect their safe operation. If abnormal noise or vibration occurs with a tool, have the problem corrected before further use.
   Do not use damaged equipment.

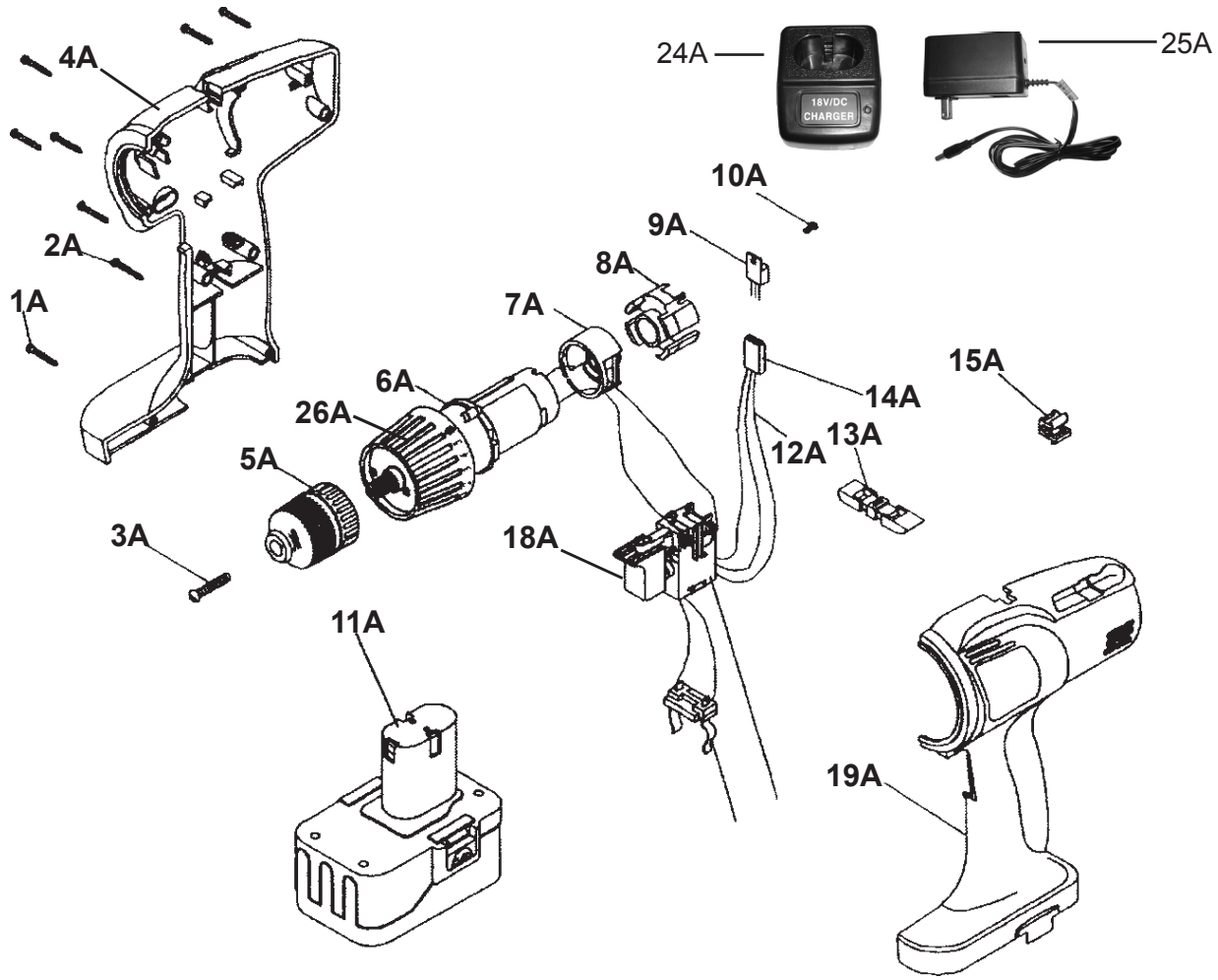
2. **To clean,** use a clean, damp, cloth to clean the outer surfaces of the Drill/ Flashlight Kit. A mild detergent may be used. Do not use solvents. Do not immerse the Drill or Flashlight in any liquid.

3. **When storing,** always keep the Drill, Flashlight, and accessories in a clean, dry location.

PARTS LIST - DRILL

Part #	Description	Part #	Description
1A	Screw (ST 2.9 x 15)	12A	Wire
2A	Screw (ST 2.9 x 18)	13A	Rotation Button
3A	Screw (M5 x 25)	14A	Connector
4A	Right Case	15A	Screwdriver Bit Clamp
5A	Chuck	17A	Battery Clamp **(Not shown)**
6A	Gear Box	18A	Trigger
7A	Motor Connector	19A	Left Case
8A	Radiator	24A	Battery Charger
9A	Bulb	25A	AC/DC Adapter
10A	Small Screw	26A	Torque Setting Ring
11A	Battery		

ASSEMBLY DIAGRAM - DRILL



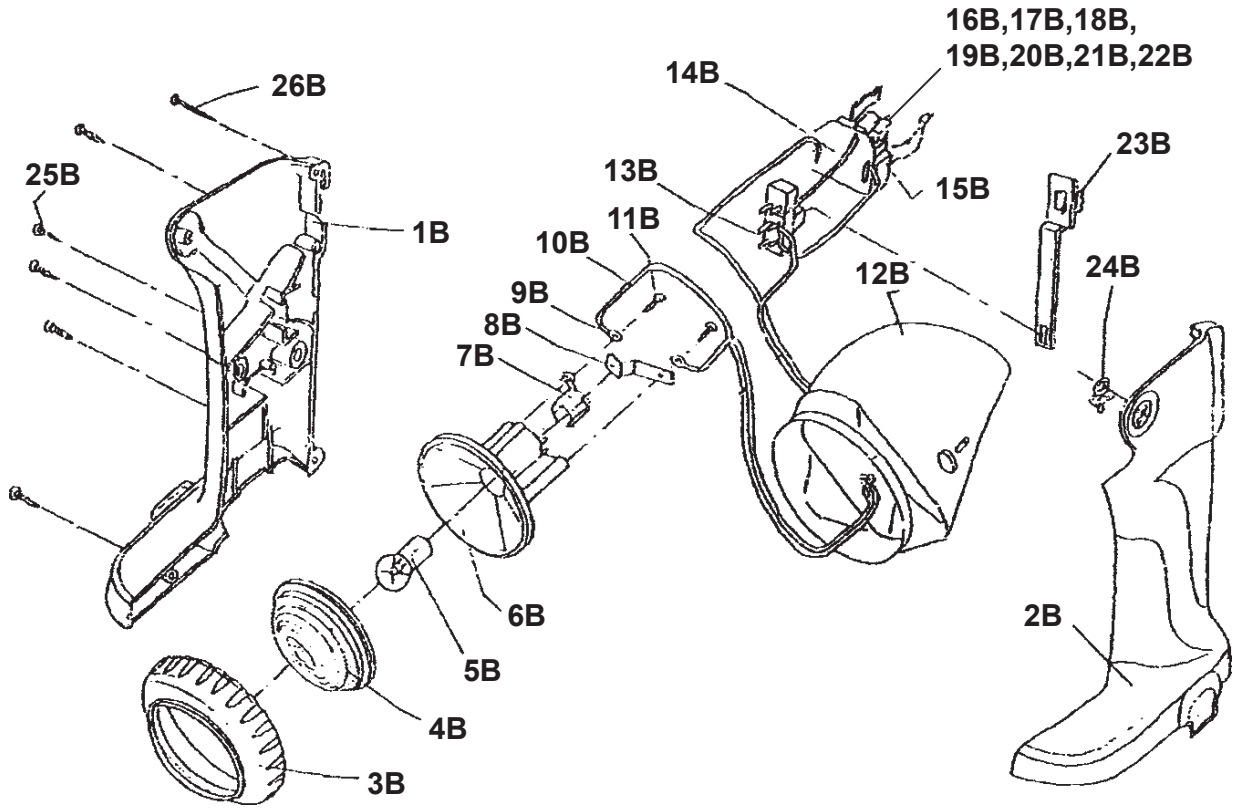
Note: Some parts are listed and shown for illustration purposes only, and are not available individually as original or replacement parts.

REV 07j, 10b

PARTS LIST - FLASHLIGHT

Part #	Description	Part #	Description
1B	Right Case	14B	Circuit Board
2B	Left Case	15B	Battery Clamp
3B	Lamp Cover Ring	16B	Capacitor
4B	Lamp Screen	17B	Diode
5B	Bulb	18B	Triode
6B	Lamp Reflector	19B	Triode
7B	Bulb Holder	20B	Resistor
8B	Connecting Plate	21B	Resistor
9B	Connector	22B	Resistor
10B	Wire	23B	Switch Lever
11B	Stun Screw	24B	Switch Connector
12B	Lamp Holder Case	25B	Stun Screw
13B	Switch	26B	Stun Screw

ASSEMBLY DIAGRAM - FLASHLIGHT



Note: Some parts are listed and shown for illustration purposes only, and are not available individually as original or replacement parts.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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